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EXAMINER JONES, HEATHIER RAE				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/601,050

Applicant(s)

OLSON, ANTHONY M.

Examiner

HEATHER R. JONES

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2009 and 22 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed March 23, 2009 have been fully considered but they are not persuasive.

The Applicant argues that Browne et al., Salmonsens, Boyle, and Utsunomiya et al. all fail to disclose a second memory disposed outside the housing of the PVR and being coupled to the PVR via a network. The Examiner respectfully disagrees. Browne et al. discloses a PVR that allows a program to be stored either in the first memory (104) or a second memory (104b). However, Browne et al. does not specifically state whether the second memory (104b) is internal or external to the PVR. Browne et al. does teach being able to communicate and control an external VCR (page 16, lines 7-14), which would include a second memory external to the housing. Therefore, Salmonsens was referenced in order to disclose that a PVR is capable of communicating with an external storage as described in Fig. 14 by a remote storage (1444) being connected via a network to the PVR system (paragraph [0183] – remote storage element (1444)) since Browne et al. already teaches storing to this second memory. Furthermore, Salmonsens discloses in paragraphs [0028] and [0032] that this remote storage that is external to the PVR can be a computer. The Boyle and Utsunomiya et al. references were referred to for different limitations. Furthermore, In re Japikse (86 USPQ 70 (CCPA 1950)) is cited for arguments regarding shifting location of parts (moving the second memory from being

internal to being external to the housing). Therefore, Browne et al. in view of Salmonsens meet the claimed limitation and the rejection is maintained.

The Applicant argues that Boyle fails to disclose any type of VSM. The Examiner respectfully disagrees. Boyle discloses a frame index data structure that allows the system to be able to quickly playback the frames without any lag during trick play (col. 6, lines 38-58 and col. 13, lines 35-37), but the frame index data structure is a file that manages the program and its logical addresses thereby functioning in the same way a storage management system would. Therefore, Boyle meets the claimed limitations and the rejection is maintained. Furthermore, Utsunomiya et al. discloses a VSM as well that tracks where programs are stored amongst different storage devices (Fig. 11).

The Applicant argues that Browne et al., Salmonsens, Boyle, and Utsunomiya et al. all fail to disclose the archival memory in communication with the PVR. The Examiner respectfully disagrees. Browne et al. discloses that the optional storage section (104b) may include removable media for long term storage as well as being able to communicate and control an external VCR (page 16, lines 7-14). Therefore, the claimed limitations are met and the rejection is maintained.

The Applicant argues that Browne et al., Salmonsens, Boyle, and Utsunomiya et al. all fail to disclose that both the first and second portion are retrieved to the PVR for playback. The Examiner respectfully disagrees. Utsunomiya et al. discloses that if program A is dispersed amongst two separate

recorders that first it will playback portion 1 from one recorder and then playback portion 2 from the second recorder (paragraphs [0087]-[0096]). Therefore, the claimed limitations are met and the rejection is maintained.

2. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-20 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Browne et al. (WO 92/22983) in view of Salmonsens in view of Boyle (U.S. Patent 6,453,115) in view of Utsunomiya et al. (U.S. Patent Application Publication 2002/0066113).

Regarding claim 1, Browne et al. discloses a system useful for storing a television program P, comprising: a PVR (100) having a housing, a first memory (104), a network interface device (105a), and logic configured to copy at least a portion of the television program P into first memory (the controller (105) copies

the television program P into memory), wherein said first memory and said network interface device are disposed within said housing; and a second memory (104b) in communication with the PVR (100) via the network interface device (105a) (Fig. 1; page 10, line 32 – page 11, line 11). Furthermore, Browne et al. discloses that the system keeps track of the total amount of "on-line" storage capacity (page 11, lines 3-11) as well as being able to communicate and control an external VCR, which would include a second memory external to the housing (page 16, lines 7-14). However, Browne et al. fails to disclose a network communicatively connected to the network interface device and to a plurality of devices external to said housing; a personal computer connected to the network; and virtual storage management (VSM) logic configured to track the location of the second memory on the network, and to store a portion of the program P in the second memory; wherein the VSM logic is configured to track one or more logical addresses of the second memory on the network for storing a plurality of portions of the program P including the said portion, and wherein said plurality of devices external to the housing includes said personal computer and said second memory.

Referring to the Salmonsens reference, Salmonsens discloses in Fig. 14 a system useful for storing a television program P, comprising: a PVR (1400 multimedia receiver/recorder) having a first memory (1426), a network interface device (1410) connected to a plurality of devices external to said housing (Fig. 14), and logic configured to copy the television program P into memory (1444 –

remote storage); a network communicatively connected to said network interface device (paragraph [0183]); a personal computer connected to the network (remote storage/source can be a computer - paragraphs [0028] and [0032]); and a second memory external to the housing in communication with the PVR via the network interface device (remote storage 2); and wherein said plurality of devices external to the housing includes said personal computer and said second memory (Fig. 14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have connected the PVR system to a network that is connected to extra storage as well as a computer as disclosed by Salmonsens in the system disclosed by Browne et al. in order to make the system more versatile and to provide more storage locations. However, Browne et al. in view of Salmonsens fail to disclose virtual storage management (VSM) logic configured to track the location of the second memory on the network, and to store a second portion of the program P in the second memory; wherein the VSM logic is configured to track one or more logical addresses of the second memory on the network for storing a plurality of portions of the program P including the said portion.

Referring to the Boyle reference, Boyle discloses a system useful for storing a television program P, comprising: a PVR having a first and second memory (col. 6, lines 50-53; col. 10, lines 35-37 – the storage subsystem comprises a hard drive incorporating one or more magnetic disks); virtual storage

management (VSM) logic configured to track the location of the second memory on the network, wherein the VSM logic is configured to track one or more logical addresses of the second memory for storing a plurality of portions of the program P (col. 6, lines 38-58; col. 10, lines 31-42; col. 13, lines 50-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the technique of using VSM logic as disclosed by Boyle with the logic that keeps track of the "on-line" storage capacity disclosed by Browne et al. in view of Salmonsens in order to allow the system to know not only know the amount of available "on-line" storage capacity, but to also keep track of where portions of programs are recorded in order to allow the system to more efficiently implement trick play modes. However, Browne et al. in view of Salmonsens in view of Boyle fail to disclose storing a second portion of the program P in the second memory.

Referring to the Utsunomiya et al. reference, Utsunomiya et al. discloses a recording system useful for storing a television program P, comprising: a first memory (3), a network interface drive, and logic configured to copy the television program P into memory (control unit 10 copies the television program P into memory); a second memory (4) in communication with the recording system via the network interface device; and a virtual storage management (VSM) logic configured to track the location of the second memory (4) on the network, and to store a second portion of the program P in the second memory (4) (Figs. 1 and 11; paragraphs [0083] – [0085]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teaching of recording a portion of a program onto a different memory when the first memory is full and to use the virtual storage management logic to track all the portions of the program as disclosed by Utsunomiya et al. with the PVR as described by Browne et al. in view of Salmonsens in view of Boyle in order to allow the PVR to use the memories to their fullest capabilities as well as to efficiently playback recordings when a portion of a program is recorded in the first memory and another portion of the program is recorded in the second memory.

Regarding claim 2, Browne et al. in view of Salmonsens in view of Boyle in view of Utsunomiya et al. discloses all the limitations as previously discussed with respect to claim 1 including that the VSM logic is configured to track the total amount of memory storage on the network that is available for storing at least one of said first or said second portion of said television program P (Browne et al: Fig. 3 – auto recording storage allocation (305); page 20, line 38 – page 21, line 3; Utsunomiya et al.: paragraphs [0044] and [0047]).

Regarding claim 3, Browne et al. in view of Salmonsens in view of Boyle in view of Utsunomiya et al. discloses all the limitations as previously discussed with respect to claim 1 including that the VSM logic is configured to track the memory locations of a plurality of portions P(i) of the program P (Boyle: col. 6, lines 38-58; col. 10, lines 31-42; col. 13, lines 50-58; Utsunomiya et al.: Fig. 11; paragraphs [0083]–[0085]).

Regarding claim 4, Browne et al. in view of Salmonsens in view of Boyle in view of Utsunomiya et al. discloses all the limitations as previously discussed with respect to claim 1 including that the VSM logic is configured to perform at least one of: (a) track which memory devices on the network are currently active in recording or playback; (b) track the memory locations of previously stored programs; (d) inform the user when a memory device holding at least a part of a program is off-line; (e) request the user to bring on-line a memory device that is off-line; (f) inform a user before the total available on-line memory runs out; (g) allow the user to set a memory lower limit for the VSM logic to inform the user prior to running out of memory; and (h) after informing the user of the memory lower limit condition, further provide the user the option to erase previously stored programs in real time (Boyle: col. 6, lines 38-58; col. 10, lines 31-42; Utsunomiya et al.: Fig. 11 – tracks the memory locations of previously stored programs).

Regarding claim 5, Browne et al. in view of Salmonsens in view of Boyle in view of Utsunomiya et al. discloses all the limitations as previously discussed with respect to claim 1 as well as further comprising an archival memory device in communication with the PVR; and archival storage management (ASM) logic configured to store the program P on the archival memory device (Browne et al.: page 10, line 32 – page 11, line 11 – the optional storage section may include removable media for long term storage; Utsunomiya et al.: Figs. 1 and 4; paragraphs [0043] and [0083]-[0085]).

Regarding claim **6**, Browne et al. in view of Salmonsén in view of Boyle in view of Utsunomiya et al. discloses all the limitations as previously discussed with respect to claims 1 and 5 including that the archival memory device comprises a DVD-R device (Browne et al.: page 10, line 32 – page 11, line 11 – the optional storage section may include removable media for long term storage; Utsunomiya et al.: Figs. 1 and 4; paragraph [0043] – the disk (18) can be optical disk).

Regarding claim **7**, Browne et al. in view of Salmonsén in view of Boyle in view of Utsunomiya et al. discloses all the limitations as previously discussed with respect to claim 1 including that the first memory and the second memory each comprises a hard disk drive, and wherein both the first and second portion are retrieved to the PVR for playback (Browne et al.: page 10, line 32 – page 11, line 11; Utsunomiya et al.: paragraph [0043] – the disk (18) can be a hard disk; paragraphs [0087]-[0096]).

Regarding claims **8-14**, grounds for rejecting claims 1-7 and 20 apply for claims 8-14 in their entirety.

Regarding claims **15-18**, these are method claims corresponding to the apparatus claims 1, 2, 5, and 20. Therefore, claims 15-18 are analyzed and rejected as previously discussed with respect to claims 1, 2, 5, and 20.

Regarding claim **19**, Browne et al. discloses a method of playing back a program using a PVR, each memory device (104 and 104b) in communication with the PVR, at least one of the memory devices (104b) in communication with

the PVR via a network (105a), the method comprising: playing back a program through at least the PVR (playing back a program that is stored in the first memory device (104)); and playing back a program through the network (105a) and through the player in the PVR (playing back a program stored in the second memory (104b)) (Fig. 1; page 10, line 32 – page 11, line 11). Furthermore, Browne et al. discloses that the system keeps track of the total amount of "on-line" storage capacity (page 11, lines 3-11) as well as being able to communicate and control an external VCR, which would include a second memory external to the housing making them physically separate from each other on the network (page 16, lines 7-14). However, Browne et al. fails to disclose playing back a program P, wherein the program is stored in at least two portions, each portion is stored on a separate memory device and using a virtual storage management (VSM) logic of the PVR to track locations of each of the portions stored on the separate memory devices, the locations including one or more logical addresses on each of the separate memory devices as well as the network being connected to a personal computer.

Referring to the Salmonsens reference, Salmonsens discloses in Fig. 14 a system useful for storing a television program P, comprising: a PVR (1400 multimedia receiver/recorder) having a first memory (1426), a network interface device (1410), and logic configured to copy the television program P into memory (1444 – remote storage); a network communicatively connected to said network interface device (paragraph [0183]); a personal computer connected to the

network (remote storage/source can be a computer - paragraphs [0028] and [0032]); and a second memory in communication with the PVR via the network interface device (remote storage 2), wherein the separate memory devices are located physically separate from each other on the network.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have connected the PVR system to a network that is connected to extra storage as well as a computer as disclosed by Salmonsén in the system disclosed by Browne et al. in order to make the system more versatile and to provide more storage locations. However, Browne et al. in view of Salmonsén fail to disclose playing back a program P, wherein the program is stored in at least two portions, each portion is stored on a separate memory device and using virtual storage management (VSM) logic of the PVR to track locations of each of the portions stored on the separate memory devices, the locations including one or more logical addresses on each of the separate memory devices.

Referring to the Boyle reference, Boyle discloses a system useful for storing a television program P, comprising: a PVR having a first and second memory (col. 6, lines 50-53; col. 10, lines 35-37 – the storage subsystem comprises a hard drive incorporating one or more magnetic disks); virtual storage management (VSM) logic configured to track the location of the second memory on the network, wherein the VSM logic is configured to track one or more logical

addresses of the second memory for storing a plurality of portions of the program P (col. 6, lines 38-58; col. 10, lines 31-42; col. 13, lines 50-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the technique of using VSM logic as disclosed by Boyle with the logic that keeps track of the "on-line" storage capacity disclosed by Browne et al. in view of Salmonsens in order to allow the system to know not only know the amount of available "on-line" storage capacity, but to also keep track of where portions of programs are recorded in order to allow the system to more efficiently implement trick play modes. However, Browne et al. in view of Salmonsens in view of Boyle fail to disclose storing a portion of the program P in the second memory.

Referring to the Utsunomiya et al. reference, Utsunomiya et al. discloses a method of playing back a program P, the program stored in at least two portions, each portion stored on a separate memory device, the memory comprising: playing back a first portion; and playing back a second portion through the network (Figs. 1, 11, and 12; paragraphs [0083] – [0085]). Furthermore, Utsunomiya et al. discloses using virtual storage management (VSM) logic of the PVR to track locations of each of the portions stored on the separate memory devices (Figs. 1 and 11; paragraphs [0083] – [0086] and [0098]). Utsunomiya et al. also discloses in paragraphs [0087]–[0096] different portions of the program are played back from a separate memory device that is located physically separate from the PVR.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teaching of recording a portion of a program onto a different memory when the first memory is full and to use the virtual storage management logic to track all the portions of the program as disclosed by Utsunomiya et al. with the PVR as described by Browne et al. in view of Salmonsens in view of Boyle in order to allow the PVR to use the memories to their fullest capabilities as well as to efficiently playback recordings when a portion of a program is recorded in the first memory and another portion of the program is recorded in the second memory.

Regarding claim **20**, Browne et al. in view of Salmonsens in view of Boyle in view of Utsunomiya et al. discloses all the limitations as previously discussed with respect to claim 1 including that the VSM logic is configured as part of the PVR (Boyle: Fig. 1; col. 6, lines 38-58; Utsunomiya et al.: paragraphs [0086] and [0098]).

Regarding claim **25**, Browne et al. in view of Salmonsens in view of Boyle in view of Utsunomiya et al. discloses all the limitations as previously discussed with respect to claim 1 including that the PVR is connected to the personal computer via said network (Salmonsens: remote storage/source can be a computer - paragraphs [0028], [0032], and [0183]).

Regarding claim **26**, grounds for rejecting claim 25 applies for claim 26 in its entirety.

Regarding claim **27**, this is a method claim corresponding to the apparatus claim 25. Therefore, claim 27 is analyzed and rejected as previously discussed with respect to claim 25.

Regarding claim **28**, grounds for rejecting claim 27 applies for claim 28 in its entirety.

5. Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Browne et al. in view of Salmonsens in view of Boyle in view of Utsunomiya et al. as applied to claims 1, 8, and 15 above, and further in view of Perinpanathan (U.S. Patent Application Publication 2002/0083145).

Regarding claim **21**, Browne et al. in view of Salmonsens in view of Boyle in view of Utsunomiya et al. discloses all the limitations as previously discussed with respect to claim 1, but fails to disclose the system further comprising: wherein, upon detecting the second memory is off-line, the VSM logic is configured to provide an instruction to bring the second memory back on-line.

Referring to the Perinpanathan reference, Perinpanathan discloses a system further comprising: wherein, upon detecting the second memory is off-line, the VSM logic is configured to provide an instruction to bring the second memory back on-line (paragraph [0007] – the device may go back on-line as a result of a user's selection or instruction).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided instructions for bringing a device back on-line as disclosed by Perinpanathan with the system disclosed by

Browne et al. in view of Salmonsens in view of Boyle in view of Utsunomiya et al. in order for the data stored on that device to be available to the user.

Regarding claim **22**, grounds for rejecting claim 21 applies for claim 22 in its entirety.

Regarding claims **23** and **24**, these are method claims corresponding to the apparatus claims 21 and 22. Therefore, claims 23 and 24 are analyzed and rejected as previously discussed with respect to claims 21 and 22.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HEATHER R. JONES whose telephone number is (571)272-7368. The examiner can normally be reached on Mon. - Thurs.: 7:00 am - 4:30 pm, and every other Fri.: 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Heather R Jones
Examiner
Art Unit 2621

HRJ
November 4, 2009

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2621